What is claim d is:

1. An electronic device comprising: a housing assembly; a supporting element disposed in the housing assembly and mounted in a generally free-floating relationship thereto; a heat source mounted on the supporting element; a heat sink surface in the housing assembly in close proximity to the heat source; and, at least one compliant compression element disposed within the housing assembly and being preloaded for resiliently loading the heat source into continuous thermal engagement with the heat sink surface, and compensate for displacements of the supporting element and expansion of the compliant compression element by heat.

2. A blade server module comprising:

a housing assembly;

a printed circuit board disposed within the housing assembly and mounted in a free-floating relationship thereto;

a processor mounted on the printed circuit board;

a heat sink surface disposed in the housing assembly in close proximity to the processor; and,

at least one compliant compression element disposed within the housing assembly and being preloaded for resiliently loading the processor into continuous thermal engagement with the heat sink surface, and compensate for displacements of the printed circuit board and expansion of the compliant compression element by heat.

3. The module of claim 2 wherein the one compliant compression element comprises a thin and flexibly resilient pad that assists in retaining the loading despite changes in temperature.

4. The module of claim 3 wherein the thin and flexibly resilient pad is an open cellular material.

5. The module of claim 4 wherein the open cellular foam material is BF-1000 silicone.

6. The module of claim 2 further comprising a thermal interface paste between the processor and the heat sink surface.

7. The module of claim 4 further comprising the resilient pad being in direct contact with a surface of the printed circuit board which is opposing a surface carrying the processor.

8. A method of thermally coupling a processor to a heat transfer surface that is disposed within a contact region of the processor, comprising:

(a) positioning a processor on a freely-floating printed circuit board;

(b) positioning a heat transfer surface in spaced relationship to the processor and within the contact region;

(c) positioning one or more compliant compression elements relative to the printed circuit board so as to urge the processor into continuous thermal engagement with the heat transfer surface; and,

(d) compressing the compliant compression element to resiliently preload it by an amount that provides a predefined retaining force urging the processor into thermal coupled engagement with the heat transfer surface, and compensate for displacements of the printed circuit board and expansion of the compliant compression element by heat.

9. The method of claim 8 wherein positioning the compliant compression element includes positioning a relatively thin and flexibly resilient pad that retains loading characteristics despite changes in temperature.

10. The method of claim 9 wherein the positioning of the thin and flexibly resilient pad includes positioning a pad made of an open cellular foam material.

11. The method of claim 9 wherein the compression element is compressed by compressing the compression element by and between a wall of the housing assembly and the printed circuit board.

12. A blade server system comprising:

a blade server console constructed for pluggable reception of corresponding ones of blade server modules; and,

one or more blade server modules, each of which is for plugging into the blade server console;

each one of the blade server modules comprises: a free-floating printed circuit board disposed therein; a processor mounted on the printed circuit board; a heat sink surface in close proximity to the processor; and, at least a compliant compression element preloaded to resiliently urge the printed circuit board into continuous thermal engagement with the heat sink surface with a predefined retention force.

13. The system of claim 12 wherein the compliant compression element includes a thin and flexibly resilient pad that retains loading characteristics despite changes in temperature.

14. The system of claim 13 wherein the compliant compression element is an open cell foam material.

15. The system of claim 14 further comprises a thermal interface paste between the processor and the heat sink surface.